

## WEST Search History

DATE: Thursday, May 08, 2003

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*DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ*

L9	L8	41	L9
L8	(((118/715)!.CCLS.) ) and l2	41	L8
L7	((49/386)!.CCLS. ) and l2	0	L7
L6	((134/8 or 134/22.1).ccls.) and l2	3	L6
L5	l2 and (guide roller)	1	L5
L4	L2 and cleaning	134	L4
L3	L2 and (rotation actuator)	1	L3
L2	L1 and ((CVD) or (chemical vapor depostion process chamber))	170	L2
L1	lid assembly	1951	L1

END OF SEARCH HISTORY

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## Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: WO 200227061 A2

L3: Entry 1 of 1

File: DWPI

Apr 4, 2002

DERWENT-ACC-NO: 2002-340026

DERWENT-WEEK: 200264

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TITLE: Lid assembly for a chemical vapor deposition process chamber, includes a moveable lid with integrated open/close mechanism

INVENTOR: BLONIGAN, W T; KURITA, S

PRIORITY-DATA: 2000US-0671504 (September 26, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200227061 A2	April 4, 2002	E	013	C23C016/00

INT-CL (IPC): C23 C 16/00

Full	Title	CIT.1	REV.1	CLS.1	REF.1	SEQ.1	ATT.1
NAW.1							

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Term	Documents
ROTATION.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	1419518
ROTATIONS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	54801
ACTUATOR.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	348524
ACTUATORS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	98675
(2 AND (ROTATION ADJ ACTUATOR)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	1
(L2 AND (ROTATION ACTUATOR)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	1

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**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 3 of 3 returned.**☐ 1. Document ID: US 6374831 B1

L6: Entry 1 of 3

File: USPT

Apr 23, 2002

US-PAT-NO: 6374831

DOCUMENT-IDENTIFIER: US 6374831 B1

TITLE: Accelerated plasma clean

DATE-ISSUED: April 23, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chandran; Shankar N.	Milpitas	CA		
Hendrickson; Scott	San Jose	CA		
Jones; Gwendolyn D.	Sunnyvale	CA		
Venkataraman; Shankar	Santa Clara	CA		
Yieh; Ellie	Millbrae	CA		

US-CL-CURRENT: 134/1.1; 134/1, 134/22.1, 134/22.18, 134/902, 438/905

## ABSTRACT:

A method and apparatus that reduces the time required to clean a processing chamber employing a reactive plasma cleaning process. A plasma is formed in an Astron fluorine source generator from a flow of substantially pure inert-source gas. After formation of the plasma, a flow of a fluorine source gas is introduced therein such that the fluorine source flow accelerates at a rate no greater than 1.67 standard cubic centimeters per second.sup.2 (scc/s.sub.2). In this fashion, the plasma contains a plurality of radicals and dissociated inert-source gas atoms, defining a cleaning mixture. The ratio of inert-source gas to fluorine source is greater than 1:1.

15 Claims, 11 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC
Draw Desc	Image										

☐ 2. Document ID: US 6347636 B1

L6: Entry 2 of 3

File: USPT

Feb 19, 2002

US-PAT-NO: 6347636

DOCUMENT-IDENTIFIER: US 6347636 B1

TITLE: Methods and apparatus for gettering fluorine from chamber material surfaces

DATE-ISSUED: February 19, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Xia; Li-Qun	San Jose	CA		
Sivaramakrishnan; Visweswaren	Santa Clara	CA		
Nemani; Srinivas	Milpitas	CA		
Yieh; Ellie	Milbrae	CA		
Fong; Gary	Cupertino	CA		

US-CL-CURRENT: 134/1.1; 134/22.1, 216/67, 438/905

## ABSTRACT:

The present invention provides systems, methods and apparatus for high temperature (at least about 500-800.degree. C.) processing of semiconductor wafers. The systems, methods and apparatus of the present invention allow multiple process steps to be performed in situ in the same chamber to reduce total processing time and to ensure high quality processing for high aspect ratio devices. Performing multiple process steps in the same chamber also increases the control of the process parameters and reduces device damage. In particular, the present invention can provide high temperature deposition, heating and efficient cleaning for forming dielectric films having thickness uniformity, good gap fill capability, high density, low moisture, and other desired characteristics.

12 Claims, 58 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 42

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC
Draw Desc	Image										

☐ 3. Document ID: US 5935340 A

L6: Entry 3 of 3

File: USPT

Aug 10, 1999

US-PAT-NO: 5935340

DOCUMENT-IDENTIFIER: US 5935340 A

TITLE: Method and apparatus for gettering fluorine from chamber material surfaces

DATE-ISSUED: August 10, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Xia; Li-Qun	Santa Clara	CA		
Sivaramakrishnan; Visweswaren	Santa Clara	CA		
Nemani; Srinivas	San Jose	CA		
Yieh; Ellie	Millbrae	CA		
Fong; Gary	Cupertino	CA		

US-CL-CURRENT: 134/1.1; 134/22.1, 216/67

## ABSTRACT:

The present invention provides systems, methods and apparatus for high temperature (at least about 500-800.degree. C.) processing of semiconductor wafers. The systems, methods and apparatus of the present invention allow multiple process steps to be performed in situ in the same chamber to reduce total processing time and to ensure high quality processing for high aspect ratio devices. Performing multiple process

steps in the same chamber also increases the control of the process parameters and reduces device damage. In particular, the present invention can provide high temperature deposition, heating and efficient cleaning for forming dielectric films having thickness uniformity, good gap fill capability, high density, low moisture, and other desired characteristics.

12 Claims, 58 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 42

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Drawn Desc	Image								

KVMC

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Term	Documents
134/8.EPAB,JPAB,USPT,PGPB.	458
134/8S	0
"134/22.1".EPAB,JPAB,USPT,PGPB.	713
134/22.1S	0
(((134/8 OR "134/22.1").CCLS.) AND 2).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	3
(((134/8 OR 134/22.1).CCLS.) AND L2).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	3

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